IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of David DUNCAN

Serial No.: 09/776,730   Art Unit: 2626

Filed: February 6, 2001   Examiner: Angela Armstrong

Title: METHOD AND APPARATUS FOR PACKING AND DECODING AUDIO AND OTHER DATA

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Applicant respectfully requests review of the final rejection in the above-identified application in view of the following remarks.

REMARKS

The Office has failed to provide a *prima facie* case of obviousness for the claimed elements in the pending claims based upon the primary reference Kopf in view of Fielder and Warren.

I.   **The Claim Elements at issue in Independent Claims 1 and 11**

Claim 1 recites:

A method of compressing digital audio data and other data into an audio signal for transmission to a receiving station, comprising the steps of:
a. dividing the audio signal into compression blocks, each compression block consisting of a plurality of compression packets, each compression packet consisting of a plurality of words,
b. providing one word in each compression packet with a component of configuration data, whereby a compression block contains sufficient configuration information to identify a manner of packing data into the compression block,
c. tagging one word in each compression packet to identify the tagged word as a word containing configuration information,
d. packing compressed audio and other data into remaining space within the compression packet, and
e. transmitting the compression packets in a predetermined sequence to a receiving station,

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wherein the receiving station constructs the configuration information from the tagged words in a compression block and decodes the compressed audio data and other data according to the configuration information.

Independent Claim 11 provides similar elements.

A. The Office's Reliance on Kopf in the § 103(a) Rejection.

The Office uses Kopf to disclose the preamble and element (d) of Claim 1. See Final Office Action, p. 2.

1. What Kopf discloses.

Kopf teaches a method for compressing digital audio, video or textual data. Kopf utilizes variable-bit-field encoding to provide a data compression/decompression scheme. *See* Kopf at 5:30-31. The compression scheme utilizes a dynamic variation of code length as a function to compress the data. Kopf at 7:18-21. Compression of data in Kopf is achieved because field width for the code is usually not required to be sent, and the field width continuously and automatically adapts to the characteristics of the data being compressed by explicit compression rules provided in Kopf. Kopf at 7:9-17, 7:26-35 (ex. of rules) and 7:56-8:21 (ex. of rules).

2. What Kopf fails to disclose.

Kopf, however, is silent regarding at least element (d) for Claim 1. The portions of Kopf cited by the Office (Kopf at 5:52-54) for support of this element, that is, "packing compressed audio and other data into remaining space within the compression packet," are wholly unrelated to packing compressed data. Rather, the only similarity between the cited portion of Kopf and the claimed element is the word "compressed". In the instant rejection, it is apparent that the Office performed a word search and relied upon Kopf as its primary reference solely because of the existence of the word "compression" when Kopf fails to teach or disclose any type of packing of already compressed data. Indeed, Kopf is directed to compressing data rather teaching the subject matter of element (d). There is no disclosure whatsoever in Kopf of packing compressed data and this claim element must be read in the context of the claim as a whole. Apart from a broad disclosure of data compression, Kopf does not teach (at 5:52-54 or elsewhere) packing data as claimed in element (d) and cannot be relied upon by the Office for a *prima facie* case of obviousness.

B. The Office's Reliance Upon Fielder is Also Misplaced.

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The Office uses Fielder to disclose elements (a) and (b) of Claim 1. See Final Office Action, pp. 2-3.

1.   What Fielder discloses.

Fielder teaches a method of scalable coding of audio signals. Fielder utilizes a data channel having plural layers: a core layer for carrying data and one or more augmentation layers for carrying data that, in combination with the data carried in the core layer, represents an audio signal at a higher resolution. See Fielder at 5:49-56. Subband signals (a portion of the bandwidth of an audio signal) are used as transform coefficients to generate subband signal elements which are then assembled into groups to represent a block of the audio signal. Fielder at 5:56-65, 6:18-24, 8:17-40.

2.   What Fielder fails to disclose.

Fielder, however, is utterly silent with regard to both elements (a) and (b) of Claim 1, that is, "dividing the audio signal into compression blocks, each compression block consisting of a plurality of compression packets, each compression packet consisting of a plurality of words" and "providing one word in each compression packet with a component of configuration data, whereby a compression block contains sufficient configuration information to identify a manner of packing data into the compression block."

The Office has improperly equated Fielder's subband signals with the claimed compression packets. Fielder describes subbands and subband signal elements as:

> The term "subband" [refers] to a portion of the bandwidth of an audio signal ['Subband signal' refers] to a signal that represents a subband. In implementations that use a spectral transform, for example, subband signal elements are the transform coefficients. See Fielder at 6:18-24.

To the contrary, a "compression packet" is a unit of data (see, e.g., Fig. 3 of the instant application). Applicant's compression packet is not a signal that represents a portion of the bandwidth (i.e., of a frequency band) of an audio signal, and it is unclear how the Office may logically reach a conclusion equating the two.

Further, the Office cites the following portion of Fielder against element (b)

> Control data is generated for the control segment 270 of frame 260. This includes a synchronization pattern that is output in the first word 272 of the control segment 270. See Fielder at 8:41-43.

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Without regard to the Office's improper equating of "compression packet" and "subband," this portion of Fielder describes employing a synchronization pattern to allow a decoder to synchronize sequential frames in a data channel. *See* Fielder at 8:43-45. Synchronization data indicates where a frame begins (Fielder 16:24); however, in context of the language of Claim 1, the claimed "component of configuration data" allows the identification of "a manner of packing data into the compression block." Fielder is utterly silent regarding any type or manner of identifying packing data – much less using a component of configuration data to identify a manner of packing data, and the Office has not provided evidence to the contrary. Additionally, as the synchronization pattern is utilized in Fielder to merely synchronize frames in sequential data, there is no teaching in Fielder regarding the use of such synchronization data to identify the manner of packing data in a compression block. Clearly, Fielder fails to teach any of elements (a) and (b) as claimed and cannot be relied upon by the Office for a *prima facie* case of obviousness in combination with Kopf.

C. The Office's Reliance on Warren.

The Office uses Warren to disclose element (c) and the wherein clause of Claim 1. See Final Office Action, p. 3.

1. What Warren discloses.

Warren teaches an electronic copy management system that controls the reproduction of proprietary data as a function of tagging information. The reproduction of a data signal may be prevented when a predetermined number of generations of control tag information is present in a transmitted and subsequently received data signal. The word "tag" in Warren clearly refers to a steganographic marker used to keep track of certain information for copy protection purposes:

> Tag data is generated inserted, and detected in a data signal which is to be copy managed . . . . [D]ata to be carried by a signal . . . is spectrally shaped to closely approximate the spectral shape of the signal, and is combined with the signal at a level where it is substantially imperceptible. Warren at 5:5-13.

2. What Warren fails to disclose.

Warren, however, is utterly silent with regard to both element (c) and the wherein clause of Claim 1, and it is utterly inconceivable how the mere disclosure of the word "tag" may provide *prima facie* support for the Office's rejection. Clearly, the Office appears to have focused solely on the presence of the word "tag" in both Applicant's claims and Warren. While the word "tag" is used extensively in Warren, this disclosure of "tag" or "tagging" fails to provide *prima facie*

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support for "identify [a] tagged word as a word containing configuration information" as claimed. Indeed, Warren has no reason to do so as Warren is directed to an entirely different purpose (copy protection vs. data packing or compression). Thus, Warren was improperly combined with Kopf and/or Fielder in a rejection of the claimed subject matter.

D. There is no Motivation to Combine the References.

Without utilizing Applicant's claims as a blueprint (as this would constitute impermissible hindsight), one of ordinary skill in the art would not have been motivated to combine the cited references to arrive at Applicant's claimed subject matter. For example, one would not have used Fielder in conjunction with Kopf as Fielder requires knowledge of and makes certain assumptions regarding frequency spectra of signals. Fielder involves subbands (frequency bands) of signals, spectral transforms, transform coefficients, and desired noise spectra (Fielder at 8:29-30). One of ordinary skill seeking to efficiently pack or compress data simply would not look to a reference that fundamentally concerns such signal processing. Furthermore, Warren is directed to an entirely different field (copy management or protection) than the other cited references. One of ordinary skill looking to "tag" a word to indicate that it contains configuration information to identify a manner of packing data would not look to a reference that is directed to stopping reproduction of data based on how many generations of control tag information have been inserted into the data (*see* Warren, abstract).

II. All Rejections are Improper

As noted above, the recited elements in the pending claims are not properly found in or obvious in view of Kopf, Fielder and Warren, and thus the rejections are improper and should be withdrawn. In addition the rejections of dependent claims are improper based on their dependency from improperly rejected independent claims. For at least these reasons, Applicant submits that the Office has failed to establish a *prima facie* case of obviousness and respectfully requests the reconsideration and withdrawal of the rejection of Claims 1-20.

DUANE MORRIS LLP   Respectfully submitted,
505 9th Street N.W., Suite 1000
Washington, D.C. 20004
Telephone: (202) 776-7800   _____/mcc/_____
Telecopier: (202) 776-7801   Mark C. Comtois   Reg. No. 46,285
Dated: October 6, 2009